

Upcoming Talks and Workshops

3rd International HIV Transmission Workshop, Principles of Intervention
31 July, 1 and 2 August 2008 Sheraton Hotel Centro Histórico, Mexico City. TALK:
Evolution in acute infection.

CHAVI Annual meeting, Sept 1, 2008.

Darwin's Birthday Symposium, Feb. 2009. Penn State. TALK: The Evolution of HIV.

Talks and Workshops

LASS, Los Alamos Summer School Theory Division summer school for undergraduates
in physics. TALK: The history of the HIV epidemic. July 2008.

Medical Virology Club Satellite Symposium on Saturday, July 12, 2008, as part of the
American Society for Virology Annual Meeting to be held at Cornell University in Ithaca,
NY. TALK: Vaccine antigen design for HIV and other highly variable viruses.

Los Alamos National Laboratory Biocapabilities Review. TALK: HIV
Databases and Vaccine Design, April 2008.

HIV Evolution and Dynamics 2008: Meeting organizer, TALK: Viral
mutational events in early infection, April 2008.

CHAVI Scientific Advisory Board Meeting: 2 TALKS: Transmitted
Virus Signatures, and Consensus and Mosaic Genes as Immunogens,
Duke University, Durham, NC, April, 2008.

Phylogenetic Theory Workshop: meeting organizer. Santa Fe, New
Mexico, April, 2008.

Keystone HIV Vaccine and Pathogenesis, 2008. Banff Canada.
Pathogenesis Meeting Organizer; Presenter: Hands-on Computer
Session on Los Alamos Sequence/Immunology Database; Session chair:
Host and Viral Genetics session; and Workshop chair: Aspects of
Progression workshop. March, 2008.

Bio-security science workshop, 2 day retreat. TALK: HIV vaccines.
Los Alamos, New Mexico. December, 2007.

CAVD Gate Foundation annual retreat. TALK: Patterns in neutralizing
antibody data. Lausanne, Switzerland. December, 2007.

VRC annual retreat, plenary speaker. TALK: HIV Vaccine design. Philadelphia, PA. November, 2007.

LANL/Sony joint workshop on supercomputing. TALK: Biological problems with parallel computing solutions: HIV Vaccine design. Los Alamos, NM. November, 2007.

Science Education Program: Science Cafe discussion of HIV/AIDS. Santa Fe, NM. October, 2007

CHAVI Annual meeting. TALK (and session chair): Overview of sequence analysis. Duke University, Durham, NC. October, 2007

LANS Science and Technology Committee TALK: HIV vaccines. The S & T committee serves as an advisory committee to the LANS Board of Governors (BOG). August, 2007

Quantitative Biology Workshop lecture, CNLS, Los Alamos National Laboratory. Immunology of highly variable viruses and vaccine design. Los Alamos, NM, August, 2007.

PAVE 100 Viral and Host Genetics Workshop. TALK: Phylogenetic Methods and Breakthrough infections. NIH, Bethesda, MD (participated by teleconference). July, 2007.

Science Journalism Workshop. TALK: History of developing an HIV vaccine, and ethical considerations in HIV reporting. Santa Fe Institute, Santa Fe, NM. May, 2007.

GAO audit, Los Alamos National Laboratory. Computational biology and bioinformatics: understanding HIV evolution and designing a vaccine. Los Alamos, NM. May, 2007.

AIDS Vaccine Research Working Group, (AVRWG) NIAID NIH. TALK: Defining acute signature sequence patterns for vaccine design. Washington DC. May, 2007.

HVTN annual meeting. TALK: Mosaic Vaccine design for variable antigens. Washington DC. May, 2007

CHAVI SAB meeting, Duke University, Durham, NC. TALK: Evolution in acute infection and acute signature analysis. Durham, NC.

April, 2007.

HIV Evolution and Dynamics. TWO TALKS: 1) Host imprinting on the HIV genome. 2) Polyvalent vaccine design. Segovia, Spain. April, 2007.

CHAVI SLG meeting, Harvard University. TWO TALKS: 1) Evolution in acute infection and acute signature analysis, and 2) Evolutionary Dynamics in Early Infection. Boston, MA. April, 2007.

Los Alamos Star Award: Towards an HIV Vaccine with an Historical Digression through the Milky Way. Los Alamos, NM. March, 2007.

CROI 2007, 14th Conference on Retroviruses and Opportunistic Infections: Computer workshops and training session. Denver, CO. February, 2007.

International PRRS Symposium. Keynote Address: HIV variability and vaccine design. Chicago, IL. December, 2006.

Chinese CDC workshop on HIV. Beijing, China. Talk: Variation and HIV vaccine design. September 2006. HLA-HIV contract meeting with Bruce Walker's group, meeting participant and Talk: Phylogenetic corrections for HLA correlates with mutational patterns.

HIVRAD review meeting. Duke University, Durham, North Carolina. Three talks: 1) Phylogenetic Theory. 2) Polyvalent Vaccine Design. 3) HIV-1 Transmission Bottlenecks. August, 2006.

AIDS Vaccines, 2006, Amsterdam, The Netherlands. Plenary talk: Global Diversity of HIV-1. August, 2006

Santa Fe Institute, the American Cancer Society visit. Talk: Designing an HIV-1 Vaccine. August, 2006.

International AIDS Vaccine Initiative, New York, New York. Talk: on contending with antigenic diversity in polyvalent vaccines, and advisory panel discussion. May 2006.

Harvard Medical School Center for AIDS Research (HMS CFAR) Annual Symposium. HIV Vaccines: Key Immunologic Challenges. TALK: Vaccine antigen design to contend with diversity. May, 2006.

Keystone HIV Vaccine and Pathogenesis, 2006. Keystone, Colorado. Workshop: HIV databases and bioinformatics, and “Meet the Experts” session participant. April, 2006.

CHAVI Advisory Board Meeting, Duke, NC. Talk: Mapping signatures of acute viral infection. April, 2006.

Workshop with Sir Tom Blundell. Talk on HIV variation and vaccine design. Los Alamos National Laboratory, Los Alamos, NM, March, 2006.

CROI 2006, 13th Conference on Retroviruses and Opportunistic Infections, Bernard Fields Memorial Lecture and 2 computer workshops, Denver, CO. February 2006.

National Institutes of Health AIDS Vaccine Research Working Group Meeting, Bethesda, MD. Participant. Jan 2006.

Santa Fe Institute, seminar: HIV variation and vaccine design. Santa Fe, NM January, 2006.

CHAVI Executive Board meeting, Boston, MA. Participant. September, 2005.

AIDS Vaccines 2005, Montreal, Canada. Talk I: Design of vaccine cocktails that provide optimized global coverage of conserved CD8+ T-cell epitope-rich proteins. Talk II: T-cell vaccine and peptide reagent design based on restricted patterns of variation in conserved HIV proteins. Round Table Discussant: Vaccine design in the context of HIV adaptation to HLA-restricted immune responses. September 2005.

National Institutes of Health AIDS Vaccine Research Working Group Meeting, Montreal, Canada. Participant. September 2005.

First CHAVI meeting, Duke University, Durham, North Carolina. Talk: CTL Vaccine Design. Also, workshop organizer for the informatics sessions. August 2005.

Los Alamos B division seminar. Talk: Exploiting the limitations of HIV diversity for vaccine design. August 2005.

Summer student lecture, Los Alamos National Laboratory. Los Alamos, NM. Talk: The History of the Global HIV epidemic. June 2005.

US Army Medical Research Institute for Infectious Diseases Joint Discussion with the LANL Pathomics Center, Los Alamos, NM. Talk: Exploiting the limitations of HIV diversity for vaccine design. June 2005.

South African AIDS Meeting, Durban, South Africa. Talk: Exploiting the limitations of HIV diversity for vaccine design. Also, I gave an HIV database training workshop, and a speech to celebrate the opening of the Nhlanguwini NOAH community center for care of AIDS orphans. June 2005.

National Institutes of Health AIDS Vaccine Research Working Group Meeting, Bethesda, Maryland. Participant. May 2005.

HLA and epitope mapping contract meeting, Boston MA. Workshop participant and talk: HIV database tools developed to facilitate handling of contract data. May 2005.

Keystone Symposia: HIV Vaccines, Banff, Canada. Talk: Factors Driving Diversity in the HIV-1 Epidemic. Also, we gave an HIV database training workshop. April 2005.

Immunoinformatics, Boston, MA. Talk: Integrating global HIV sequence and immunological data for vaccine and reagent design. March 2005.

PARTNERS in AIDS Research, Harvard/Mass. General Hospital, Boston MA. Talk: Variation and HIV Vaccine Design. March, 2005.

University of California National Security Panel, Los Alamos, NM. Talk: Advances in HIV Research. March, 2005.

12th Conference on Retroviruses and Opportunistic Infections (CROI). HIV database training workshop. February 2005.

Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle, NC. SAMSI Distinguished Lecture, talk in the series: Genomes to Global Health: Computational Biology of Infectious Disease. December 2004.

Cornell University, Ithaca, NY. Talk: Strategies for HIV vaccine design: coping with diversity. December 2004.

Council on Foreign Relations, New York, NY. Meeting on HIV and National Security. Talk: Available data and its limitations for global molecular epidemiology and tracking of HIV. December 2004.

March 2005

University of New Mexico Medical School, Department of Pathology, Albuquerque, NM. Talk: Strategies for HIV vaccine design: coping with diversity. December 2004.

Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle, NC. Taught workshop on vaccine design, discussion of statistical issues in central vaccine design concepts; host and course organizer, Dr. Tom Kepler. November 2004.

Institute of Human Virology 2004, Baltimore, MD. Talk: HIV diversity and vaccine considerations: do acute viruses narrow the field? November 2004.

The Thirtieth Anniversary Celebration of Theoretical Biology at Los Alamos National Laboratory, Los Alamos, NM. Talk: Are HIV sequences sampled early in infection distinct from those sampled later? November 2004.

EO Lawrence Award Ceremony, State Department, Washington, DC. Recipient of the award. November 2004.

National Institutes of Health AIDS Vaccine Research Working Group Meeting, Lausanne, Switzerland. Participant. September 2004.

University of Göttingen, Germany. Talk: HIV variation and neutralizing antibody responses. September 2004.

DOE meeting regarding basic science research at the National Laboratories funded through internal research grants, Las Vegas, NV. Talk: Strategies for rational HIV vaccine design. August 2004.

Vaccines 2004, Lausanne, Switzerland. Meeting organizer and session chair. August 2004.

University of Uppsala, Sweden. Talk: HIV variation and vaccine design. May 2004.

HIV sequence and epitope mapping workshop at Harvard, Mass General, Boston, MA. Workshop participant. Talk: Imprinting patterns of CTL immune escape on HIV sequences in Durban, South Africa. May 2004.

Keystone Symposium on Molecular Mechanisms of HIV Pathogenesis/HIV Vaccine Development, Whistler, British Columbia, Canada. Talk: Neutralizing antibody signature patterns and vaccine design. Also, spoke

in a meet-the-experts session, and gave two database workshops. April 2004.

Evolution and Dynamics 2004, Stockholm, Sweden. Meeting organizer, session chair, and Talk: Neutralizing antibody sensitivity signature patterns in HIV sequences. April 2004.

National Center for Genome Resources (NCGR), Santa Fe, NM. Talk: HIV-vaccine design. March 2004.

Update to representatives of Pfizer on viral databases and vaccine design, Los Alamos National Laboratory, Los Alamos, NM. March 2004.

CFAR Dinner Lecture, University of Alabama, Birmingham, AL. Talk: Implications of HIV diversity for vaccine design. February 2004.

Retroviruses and Opportunistic Infections, San Francisco, CA. Workshop/Talk: The Los Alamos HIV database. February 2004.

HIV-1 Virus Panel Workshop, NIAID sponsored, Duke University, Durham, NC. Talk: Neutralizing antibodies and HIV clades. January 2004.

Santa Fe Institute Annual Business Network Meeting and Fall Trustees' Symposium, Santa Fe, NM. Talk: HIV variation and vaccine design. November 2003.

NIH Vaccine Research Center Seminar, Washington, DC. Talk: Host genetics and AIDS and implications for vaccine design. November 2003.

HTVN Full Group Meeting, Seattle WA. Talk: Rational design of HIV vaccines. October 2003.

National Institutes of Health AIDS Vaccine Research Working Group Meeting, New York, NY. Participant. September 2003.

AIDS Vaccines 2003, New York, NY. Talk: Consensus and ancestral envelope design. Session convener: HIV Immunogen Design. September 2003.

AIDS Vaccines 2003, Associated workshops, New York, NY. Talk and workshop convener: HIV sequence immunology and vaccine databases. September 2003.

An HIV neutralizing antibody consortium meeting, organized through the International AIDS Vaccine Initiative (IAVI), New York, NY. Talk: HIV variation and vaccines. September 2003.

XII International HIV Drug Resistance Workshop, Cabo San Lucas, Mexico. Plenary speaker. Talk: HIV-1 global diversity. June 2003.

AIDS Vaccine Research Working Group Meeting, Washington, DC. Workshop participant. June 2003.

HLA, Viral variation and vaccine design, Durban, South Africa. Workshop participant via teleconference link. May 2003.

Keystone Symposia, Joint session: HIV Vaccine Development: Immunological and Biological Challenges and Twenty Years of HIV Research: from Discovery to Understanding, Banff, Alberta, Canada. Talk: HIV recombination, now you see it, now you don't. Also participated in the tutorial entitled "Viral diversity and replication." April 2003.

HIV Evolution and Dynamics, Arrowhead CA. Meeting organizer, session chair on HIV Evolution and Immune Escape, and Talk: Host genetics and disease progression: a class I supertype rare allele advantage. April 2003.

Jemez Mountain Biologists Annual Meeting, Santa Fe, NM. Talk: Strategies for HIV vaccine design. March 2003.

AAAS Annual Meeting, Denver, CO. Talk: HIV microbial forensics, ten years of experience. February 2003.

NIH Vaccine Research Center Seminar, Washington, DC. Talk: Host genetics and AIDS and implications for vaccine design. November 2002.

Pediatric AIDS Foundation Workshop, Tucson, AZ. Glaser Scientist Think Tank Participant. November 2002.

AIDS Vaccine Research Working Group, NIH, Washington, DC. Participant. September 2002.

Workshop on Enabling Concepts in Biosystems, Santa Fe, NM. Talk: Analysis of human immunological proteins (HLA molecules) and their association with rates of progression to AIDS. September 2002.

HIVNET 028 scientific workshop, Cape Town, South Africa. Speaker and participant. August 2002.

Immunology and HIV. Lecture at the South African National Bioinformatics Institute (SANBI), University of the Western Cape, Cape Town, South Africa. August 2002.

American Academy of Microbiology. Microbial Forensics Colloquium, Burlington, VT. Organizer, rapporteur. June 2002.

Keystone Symposium on HIV Pathogenesis and the Keystone Symposium on HIV Vaccines, Keystone, CO. Talk: HIV vaccine design and HLA rare-allele advantage. April 2002.

UMASS Local CFAR Group, Worcester, MA. Talk: Implications of HIV variation for the design of vaccine reagents. December 2001.

Harvard, seminar series, Boston, MA. Talk: Implications of HIV variation for the design of vaccine reagents. December 2001.

Merck Research Laboratories, seminar series, West Point, PA. Talk: Implications of HIV variation for the design of vaccine reagents. December 2001.

National Institute of Allergy and Infectious Diseases (NIAID). Topic: occasional industry visit by Bette Korber of LANL. Purpose: to initiate discussion with advanced technology developers and service providers. Talk: HIV sequence and immunology databases as a prototype for other pathogen databases. November 2001.

National Institute of Allergy and Infectious Diseases (NIAID) Vaccine Developmental Resources Group (VDRG) Fall Meeting. Review participant. November 2001.

Pediatric AIDS Foundation Think Tank Participant, Jacksonville, FL. Talk: Vaccine selection. November 2001.

Vaccines 2001, Philadelphia, PA. Talk: C clade vaccine design. Also participated in the HIV nomenclature session and co-presented with Dr. Francine McCutchan discussion on the current status of HIV nomenclature, and with Dr. Larry Corey moderated the session: Experiences with Clinical AIDS Vaccine Trials in Humans: What we have Learned. September 2001.

Scripps Research Institute Pathogenesis Affinity Group, San Diego, CA. Talk: Immunological implications of global HIV diversity. May 2001.

UCSD Local CFAR Group, San Diego, CA. Talk: Immunological implications of global HIV diversity. May 2001.

HIV Evolution and Dynamics Meeting, Paris, France. Meeting organizer, Immunology and Evolution co-chair. Talk: Imprint of CTL escape on global variants of HIV. April 2001.

Keystone Symposium on HIV Pathogenesis and the Keystone Symposium on HIV Vaccines, Keystone, CO. Talk: HIV variation and CTL epitopes. April 2001.

Stanford University Medical School, Palo Alto, CA. Talk: HIV evolution and variation. March 2001.

The Gladstone Virology Center, UCSF Medical School, San Francisco, CA. Talk: HIV evolution and variation. March 2001.

Grand Rounds, University of New Mexico Medical School, Albuquerque, NM. Talk: HIV evolution and variation. March 2001.

The Aaron Diamond AIDS Research Center, 10th Anniversary Symposium, New York, NY. Talk: Modeling the history of the HIV epidemic. March 2001.

The Conference on Retroviruses and Opportunistic Infections, Chicago, IL. Moderator of the session: Epidemiology and Infection Control. February 2001.

Great Lakes Regional CFAR Advisory Board Meeting, Chicago, IL. Moderator of the session: Epidemiology and Infection Control. February 2001.

Los Alamos National Laboratory Science Days 2001, Los Alamos, NM. Talk: Modeling HIV evolution. 2001.

Pediatric AIDS Foundation Think Tank Participant, Jacksonville, FL. Talk: Mother-infant transmission of HIV and immune escape. November 2000.

The Royal Society Meeting on the Origin of AIDS, London, UK. Talk: Using phylogenetic analysis to better understand the HIV pandemic. September 2000.

External reviewer for the CDC bioinformatics program. Atlanta, GA. August 2000.

Talk: Business Network: Biology -- What is new at SFI, Santa Fe Institute, Santa Fe, NM. The Global evolution of HIV-1 and a short description of problems in pediatric AIDS. July 2000.

HIV Evolution and Dynamics Meeting, Seattle, WA. Organizer, chaired session on Immune Influences on Viral Evolution. Talk: Variation and implications for vaccine design. April 2000.

US-Japan cooperative medical science program twelfth joint meeting AIDS, Santa Fe, NM. Talk: HIV-1 evolution. Also gave a workshop together with Carla Kuiken on how to use the HIV databases at Los Alamos. March 2000.

Retroviruses, San Francisco, CA. Keynote Speaker: Timing the origins of the HIV-1 M group. February 2000.

WHO HIV Vaccine Working Group, Geneva, Switzerland. Talk: CTL epitope variation. February 2000.

Physics and Theoretical Divisions Colloquium, Los Alamos National Laboratory, Los Alamos, NM. Talk: Using phylogenetic analysis to understand the origins of HIV. January 2000.

Keystone Meeting on Emerging Infectious Diseases, Taos, NM. Talk: The origins of HIV (replacement speaker for David Ho, who could not attend). January 2000.

Division of AIDS, National Institute of Allergy and Infectious Diseases (NIAID) Vaccine Developmental Resources Group, Washington, DC. Participant. January 2000.

The Fourth Symposium of Biological Research in the Jemez Mountains, NM. Talk: The origins of HIV. November 1999.

Pediatric AIDS Foundation Glaser Scientist Meeting, Jacksonville FL. Talk: Progress report on combination therapy trial in infants and the development of analytical tools for sequence analysis. October 1999.

Chairman of the HIV Nomenclature Meeting, Santa Fe, NM. Talk: Overview of the implications of nomenclature and meeting summary. September 1999.

CDC Hepatitis Branch, Atlanta, GA. Invited Talk: Sequence analysis of HCV: molecular epidemiology. September 1999.

AIDS Vaccine Evaluation Group, Reston VA. Talk: Implications of HIV variation for vaccine design. May 1999.

The Federation for American Societies for Experimental Biology (FASEB), Washington, DC. Presenter in the session called HIV Vaccine Development: Opportunities and Challenges. Talk: Global diversity and rate of evolutionary change of HIV. April 1999.

The 6th Annual HIV Evolution and Dynamics Meeting, Atlanta, GA. Meeting organizer and session chair of the Host Immune Pressure and Evolution Session. Two talks: Guidelines for HIV forensics, and Subtype specific evolution of the V3 loop. March 1999.

University of New Mexico Biomedical Seminar Series, Albuquerque, NM. Talk: Global variability of HIV. February 1999.

Keystone Symposium on HIV Pathogenesis and the Keystone Symposium on HIV Vaccines, Keystone, CO. Talk: Global variability. January 1999.

Pediatric AIDS Foundation Elizabeth Glaser Scientist Think Tank, White Oaks, FL. Talk: CTL and mother-infant transmission of HIV and preliminary conclusions from a combination therapy trial in infants. November 1998.

Frontiers in Theoretical Science at Los Alamos: A symposium dedicated to the memory of Dick Slansky, Los Alamos, NM. Talk: HIV-1 evolution and implications for understanding the history of the AIDS epidemic. May 1998.

HIV Dynamics and Evolution Meeting, Santa Fe, NM. Lead conference organizer; Talk: Limitation of a molecular clock and HIV; Session chair: Pediatric AIDS. April 1998.

Lake Tahoe Center Meeting on Antiviral Therapy: Targets, Resistance, Strategies to Minimize Resistance. Session Chair. Presentation: Available database resources. Round Table Chair: Database needs. January 1998.

ACTG meeting on sequence analysis of drug resistance mutations, hosted by Doug Richman, UCSD, San Diego, CA. Workshop participant and presenter. 1998.

People of Color AIDS Foundation (POFAC) Conference, Los Alamos, NM. Talk: Global trends and considerations for vaccine design. 1997.

AAAS Annual Meeting and Science Innovation Exposition (AMSIE '97), Seattle, WA. Talk: Sequence analysis of HIV vaccine breakthrough cases. 1997.

International meeting on HIV population dynamics, variation and drug resistance, Edinburgh, Scotland. Talk: Sequence analysis of HIV vaccine breakthrough cases. 1997.

Pediatric AIDS Foundation Think Tank, Washington DC. Workshop participant. March 1997.

Santa Fe Institute colloquium series, Santa Fe, NM. Talk: HIV analysis issues relating to two topics: HIV-1 envelope vaccine trials and HIV-1 mother-infant transmission. 1997.

HIV Vaccine Think Tank, sponsored by the Aaron Diamond AIDS Research Foundation and AMFAR, Pocantico Conference Center, NY. Workshop participant. 1997.

Triple Drug Therapy Trial in HIV-1 Infected Children, Pediatric AIDS Foundation Workshop, New York, NY. Participant. 1997.

UNAIDS meeting on HIV global variation, Dar es Salaam, Tanzania. Two talks: Global variation of HIV, and HIV variation and CTL epitopes. I wrote with Michael Hoelscher the policy statement/review article for the WHO/UNAIDS to summarize this meeting, published in AIDS. 1997.

A Conference on Global Strategies for the Prevention of HIV Transmission from Mothers to Infants, Washington, DC. Talk: Viral genetics of mother-to-infant HIV transmission – global perspective. 1997.

Harvard AIDS Institute Seminar Series Speaker, Boston, MA. Talk: The implications of HIV-1 variation. 1997.

Pediatric AIDS Foundation Think Tank for Glaser Award Recipients, Washington, DC. Participant. 1997.

Review of the Canadian National HIV Laboratory, strategy and public health mission development for the years 1998-2003. Ottawa, Canada. Review participant. 1997.

XI International Conference on AIDS, Vancouver, Canada. Talk: Meet the expert, phylogenetic analysis; chaired session on global variation of

HIV; and participated in the WHO UN satellite meeting on HIV variation. 1996.

Individual Patient Data (IPD) Meta-Analysis: Method of Delivery and Vertical Transmission of HIV, NIH, Bethesda, MD. Workshop participant. 1996.

Second National Conference on Human Retroviruses and Related Infections, sponsored by the American Society for Microbiology, Washington, DC. Talk: Distinctive evolutionary patterns in different genetic lineages of HIV-1. 1995.

HIV and the Pathogenesis of AIDS, The Banbury Center, Cold Spring Harbor Laboratory, NY. Talk: Antigenic diversity and viral variation. 1995.

DIMACS International Conference on HIV Sequence Variation and Statistical Methods, Rutgers University, NJ. Talk: Overview of the HIV sequence database. 1995.

Exposed but Uninfected, Pediatric AIDS Foundation Workshop, Oxford, England. Participant. 1995.

HIV Recombination Workshop, Santa Fe, NM. Talk: Korber on HIV-1 clades and their distinguishing biological features, including epitopes. 1995.

Invited Lecture, Center for Molecular Biotechnology, University of Washington, Seattle, WA. Talk: Viral and immunological evolutionary dynamics in the progression to AIDS. 1995.

Complexity and the Biological Sciences, Third Annual Santa Fe Institute Science Symposium, Santa Fe, NM. Talk: Mother infant transmission of HIV-1: combined analyses of HIV-1 DNA sequences, viral biology and clinical histories. 1994.

WHO Global Programme on AIDS Workshop on HIV Variability, Florence, Italy. Rapporteur. Talk: Genetic variability and serotyping. 1994.

AIDS from Basic Science to Prevention Diagnosis and Therapy, Florence, Italy. Talk: Phylogenetic and phenetic analysis of HIV variability. 1994.

Analysis of Biological Sequences Workshop, organized under the auspices of the Center for Human Genome Studies and Center for Non-

Linear Science at Los Alamos National Laboratory, Los Alamos, NM.
Talk: Issues in HIV sequence analysis. 1994.

Workshop on Theoretical and Computational Biology, honoring George Bell and Walter Goad. Los Alamos, NM. Talk: Looking for the forest in the trees: phylogenetic, phenetic, and serological clustering patterns in HIV. 1994.

United Biomedical Inc. Session on HIV-1 V3 Multivalent Vaccines, Long Island, NY. Participant. 1992. Follow up visit and talk funded through the Molecular Medicine program at LANL, July 1994.

Workshop on Genetic Analysis of HIV, University of Southern California, Los Angeles, CA. Talk: Spectrum of genetic variation of the HIV-1 genome and selected problems in analysis. 1993.

Workshop on HIV Genetic Variation, hosted by the CDC and Roche Biochemicals, Alameda, CA. Talk: Use of signature pattern analysis to detect relationships among HIV genomic sequences. 1993.

Mathematics and Molecular Biology III, Computational Approaches to Nucleic Acid Structure and Function, Santa Fe, NM. Poster: An information theoretic approach to covariation of mutations in highly variable HIV-1 proteins. 1992.

Pediatric AIDS Foundation Think Tank on Mother-Infant HIV Transmission, Santa Barbara, CA. Participant. Attend periodic meetings of the Pediatric AIDS Foundation to discuss the progress of the ARIEL project, which was conceived in 1992 during the initial think tank. 1992.

Advances in AIDS Vaccine Development, Fifth Annual Meeting of the National Cooperative Vaccine Development Groups for HIV-1, Chantilly, VA. Talk: Patterns of variation among international isolates in the HIV-1 envelope protein. Also, speaker/participant: Mother-Infant Transmission Working Session: Signature pattern analysis and applications for pediatric AIDS. 1992.

The Third KECK Symposium on Computational Biology, Dallas, TX. Talk: Covariation of mutations in the V3 loop of the HIV-1 envelope protein: an information theoretic analysis. 1992.

Physics and Theoretical Divisions Colloquium, Los Alamos National Laboratory, Los Alamos, NM. Talk: International variation of HIV-1: implications for vaccine design and viral evolution. 1992.

Duke University Medical School, Durham, NC. Talk: Epitope variation in the V3 loop of the HIV-1 envelope protein. 1991.

Cold Spring Harbor Vaccine Meeting, Cold Spring Harbor Laboratory, NY. Talk: Variation in the principal neutralizing domain of the HIV-1 envelope protein from international sampling. 1991.

Advances in AIDS Vaccine Development, Fourth Annual Meeting of the National Cooperative Vaccine Development Groups for HIV-1, Marcos Island, FL. Talk: Inter- and intra-patient variation of the V3 loop of the HIV-1 envelope protein. 1991.

Pan American Health Organization (PAHO) meeting on HIV-1 in Rio de Janeiro, Brazil. Talk: PCR as a diagnostic tool for humanretroviral infection. 1988.